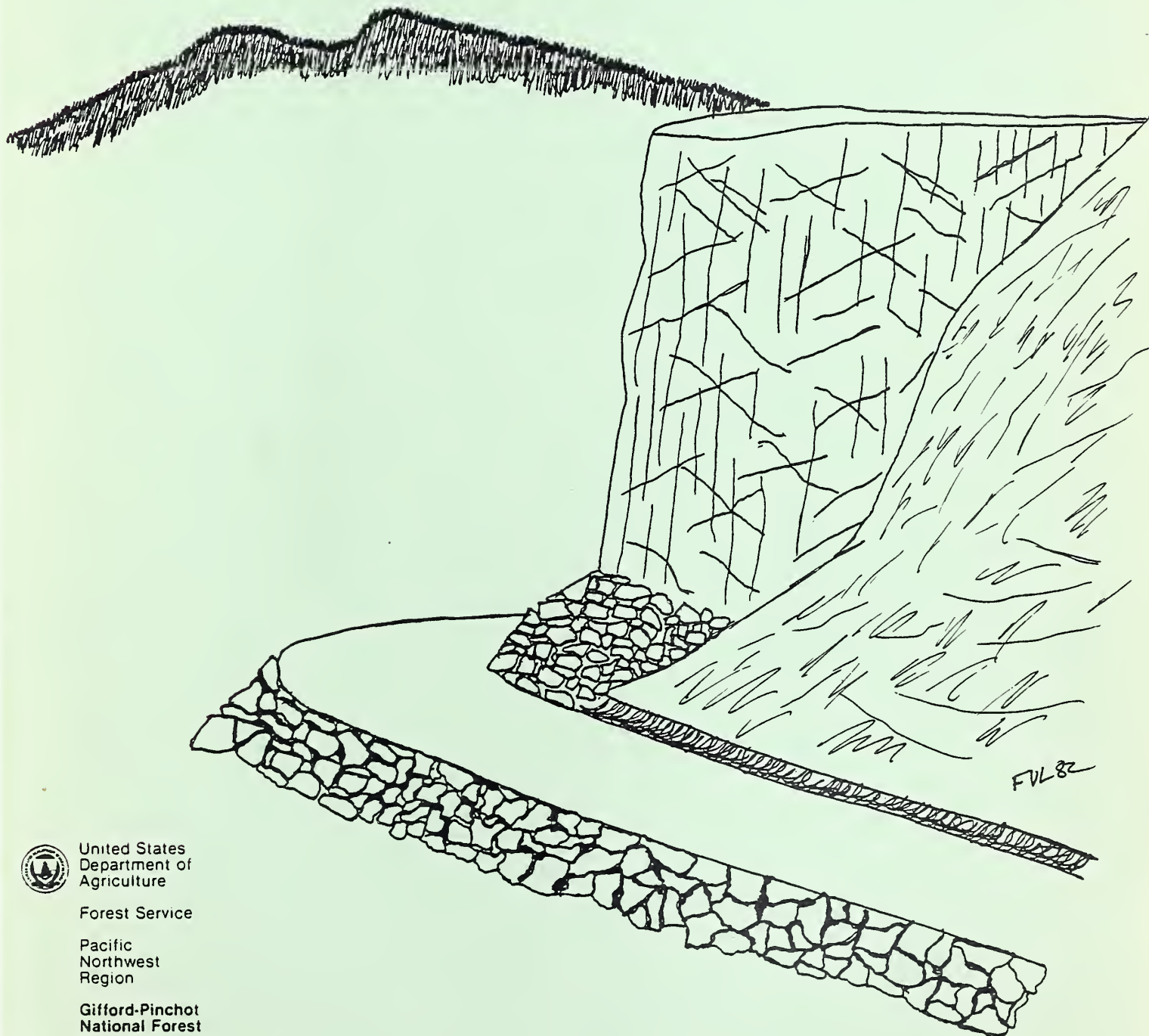


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Rock Resource Management Plan

June 1982



United States
Department of
Agriculture

Forest Service

Pacific
Northwest
Region

Gifford-Pinchot
National Forest



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The Rock Resource Management Plan for the Gifford Pinchot National Forest was developed under the direction of the Forest Management Team. It will be in effect until the Forest Plan is finalized or until the Regional Forester provides different direction. The Gifford Pinchot National Forest prepared the plan to best manage the rock resource for the foreseeable future.


ROBERT D. TOKARCZYK
Forest Supervisor

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Exhibits

- A. Materials Source Go/NoGo Decision Document
- B. Exploration Data Sheet
- C. Standard for Materials Source Development Plan Symbols
- D. MSHA Notification Form
- E. Quarry Report
- F. Region 6 Forest Service Mineral Material Utilization
- G. Task Force Documentation

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I. Introduction

Until March, 1982, the Gifford Pinchot National Forest had no formally documented Rock Resource Management Plan and extraction policy.

The Regional Office issued Supplement No. 46 to the Forest Service Manual Title 7100 - Engineering Operations in April of 1981. This manual supplement requires each forest to produce a rock resource plan which will inventory resource potential, project forest and public needs, develop standards and procedures, assign responsibility, and develop forest extraction policy. In August of 1981, the Forest Management Team gave the Forest Engineer the responsibility of establishing a Forest Rock Resource Management Task Force consistent with the Team's intent for interdisciplinary membership to formulate the Forest Rock Resource Management Plan. The following individuals were appointed to the task force by the Forest Supervisor:

- Tom Reilly, Forest Geologist - Task Force Chairperson
- Jim Bull, Mt. Adams District Ranger
- Bob Yoder, Zone I Engineer
- Allen Morrisette, Transportation Planner
- Dave Porter, Landscape Architect
- Roger Williams, Land Management Planner

This Rock Resource Management Plan is the result of the task force effort. The task force overall objective was to analyze the current situation and to recommend necessary procedures, policy, standards and responsibilities to guide the forest extraction and use of common mineral materials for the foreseeable future. In order to insure that this plan carries proper authority to accomplish the stated objectives, portions of this plan are to be included in the Forest Service directives system as manual and/or handbook supplements.

Definitions for many of the technical terms appearing in this plan, where not defined in the text, are defined in Supplement No. 46 to the Forest Service Manual Title 7100 Engineering Operations, page 3.

Figure 1 on page 30 is a flow chart illustrating the planning steps and interrelationships leading up to the formulation of the documentation and plans (management direction, development plan, operating plan) which guide materials source development and for which standards are presented in this document.

II. Assessment of the Current Situation

The situation as of March 1982 was assessed regarding Forest common mineral materials supply, demand, stages of site management (management direction, development, operation, and rehabilitation), Forest and directives system policy, site investigation, and laws and regulations affecting materials removal. This portion of the Plan is a summary of that information.

1. Total Number of Materials Sources

Developed (Existing source used for at least one entry)	153
Undeveloped (confirmed through detailed rock source investigation)	12
Closed (due to current economics or management direction concerning visuals or other issues precluding further use - have potential for use if direction is changed)	95
Depleted (physical limitations preclude further extraction - little or no rehabilitation accomplished)	7
Potential (sites which may prove viable but not confirmed through rock source investigation)	168
Terminated - Sources permanently closed by management direction and in need of rehabilitation	<u>19</u>
GRAND TOTAL	454

The total number of sources by category was based on the inventory as of March of 1982. It is anticipated that the numbers will change with time as inventories are refined and management direction changes.

2. Number of Sources With:

a) Written management direction	8
b) Long term development plan	70
c) Operating plan - currently all sources used for contract or timber sale have an operating plan for each entry	ALL
d) Rehabilitation plan	4
e) Adequate investigation (current standard)	45

3. Volume of Rock from 454 sites (supply):

Confirmed	16,115,000 cubic yards
Estimated (high confidence)	2,360,000 " "
"Best Guess" (low confidence)	1,290,000 " "

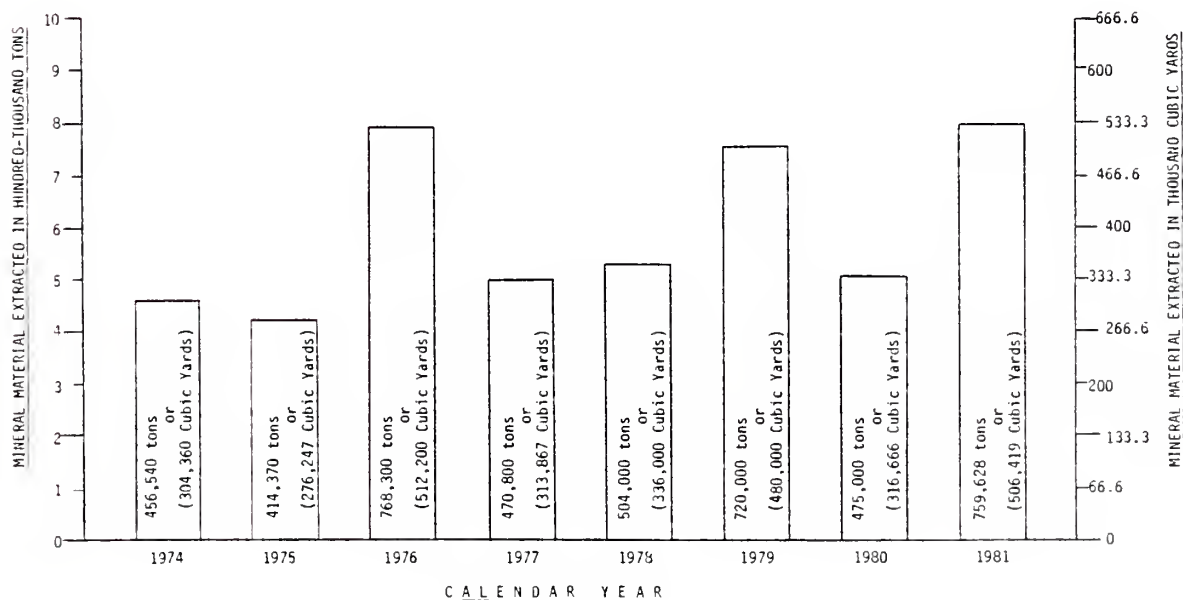
No. of sources with no quantity estimate: 120

4. Demand for Rock Materials:

Currently the only tool being used on the Forest to forecast rock demand is the 5 Year Action Plan for resource development proposals. This method proves reliable only for forecasting short term demand. Forest total from current 5 year action plan: 3,100,000 cubic yards.

This total also includes projected needs for spur road and landing rock material.

Long term rock demand is unknown and can only be estimated by observing historical trends in Forest rock use. The following bar graph illustrates the recent totals of rock extracted by calendar year:



* Total rock produced on the Gifford Pinchot National Forest

CY 74	456,540 tons	(304,360 cubic yards)
CY 75	414,370 tons	(276,247 cubic yards)
CY 76	768,300 tons	(512,200 cubic yards)
CY 77	470,800 tons	(313,867 cubic yards)
CY 78	504,000 tons	(336,000 cubic yards)
CY 79	720,000 tons	(480,000 cubic yards)
**CY 80	475,000 tons	(316,666 cubic yards)
CY 81	759,628 tons	(506,419 cubic yards)

* From Annual Mineral Material Utilization Report submitted to Regional Forester at request of U.S. Bureau of Mines.

** Total down significantly from CY 79, probably due to Mount St. Helens eruptions.

The historical totals do not include rock extracted for spur roads and landings. Historical use patterns indicates that demand for spur and landing rock may increase the actual total by 1/3.

5. Currently Obligated Rock Materials - FY 82:

FOREST TOTAL: 1,731,000 tons (914,000 cubic yards)
(includes timber sales,
contracts, force account)

It should be recognized that materials obligated in any fiscal year will probably not be extracted in that same year.

6. Storage of Mineral Materials Source Data:

It is possible to utilize the Minerals subsystem of TRI to locate sources, and the type of source (developed, closed, etc.) can be distinguished by utilizing different symbols. There is no uniform utilization of this system currently on the Forest. The geotechnical group has developed a set of symbols which they use on map overlays and are quite workable, but the regionally developed symbols for the TRI System are different and not as all-inclusive.

Another facet of data storage is the information mutually needed by geotechnical and Districts concerning source volumes, obligated volumes, types of material available and its potential use or relative value. Currently most data is stored and updated manually by geotechnical zone personnel, and often District personnel are unaware of total volume, obligated volumes, and potential use of the materials when issuing permits.

7. Standards

Currently, the Forest has no standard for determining site management direction, development plans, operating plans, or rehabilitation plans. A draft standard for site investigation was written by the Forest Geologist in May of 1980 and distributed to the Zone geotechnical personnel and has been functioning as the Forest standard since that time.

8. Applicable Federal and State Laws and Regulations and Their Implications

- a) National Forest Management Act (NFMA) does not specifically mention rock resource management. The Regional Plan has identified this as a management concern. The Forest Planning process has identified several issues and concerns related to this area, and the Forest Plan will probably incorporate this Rock Resource Plan to resolve these issues and concerns.
- b) Mine Safety and Health Administration (MSHA) regulations have several specific provisions which apply to Forest rock resource management. Enforcement of the regulations are MSHA's responsibility; however, several provisions apply to Forest materials source development plans.

A provision of these regulations which is applicable to extraction of common mineral materials on the Forest is subpart 56.26 - Procedures. This provision requires notification to MSHA by the owner or operator prior to any materials extraction and when the operation has ceased. This provision has caused confusion in the past on the Forest. Currently every Timber Sale Prospectus and Prework Conference Guide (for formal contracts) mentions this provision and informs the operator that it is the responsibility of the operator to notify MSHA.

- c) Occupational Safety and Health Administration (OSHA) regulations have several specific provisions (Subpart P - Excavations, Trenching, and Shoring) which apply to Forest Rock Resource Management. Enforcement of these regulations is OSHA's responsibility and by agreement with MSHA will apply only to stockpiles and borrow pits.
- d) Clean Water Act establishes various standards relating to materials extraction depending on the class of stream involved.
- e) Federal Mined Lands Reclamation Act is not applicable to common variety mineral material extraction.

f) Washington Surface Mining Act

This act applies on the Forest only to sources where the rights to the mineral materials are outstanding. None such sources were identified.

g) Proposed Minerals Materials CFR 228-C regulation to be published in the Federal Register by March of 1982 governs all extraction of common mineral materials on National Forest System Lands.

III. Objectives

Consistent with the Requirements of R-6 Supplement No. 46, Title 7100 Engineering Operations, the following objectives were defined for the Forest Rock Resource Management Plan:

- A. Define the Forest rock resource management process and assign roles and responsibilities.
- B. State the Forest policy regarding rock removal and establish direction for administration and implementation addressing both short (up to 10 years) and long term demand in response to the assessment of the mineral materials situation.
- C. Establish standards of performance for material site management direction, location, investigation, development, operation, and rehabilitation.
- D. The Rock Resource Management Plan be consistent with and incorporated as part of the Forest Plan and existing Forest programs.

IV. Policy

The overall Forest Service policy concerning common mineral materials is contained in FSM Title 2800, Minerals and Geology. Specifically, Chapters 2801, 2820 and 2850 provide Forest Service policy and overall direction for administration. The following forest policy statements are principles which apply to extraction of these materials on the Gifford Pinchot National Forest.

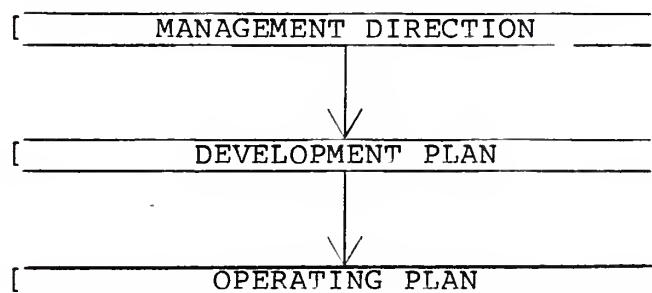
- A. The decision to use any location for a common mineral materials source will be documented by an approved environmental assessment.
- B. Common mineral materials used will not exceed minimum project quality requirements unless no other feasible alternative is available.
- C. The Forest will attempt to provide common mineral materials in response to other federal, state, or local governments, industry, and private needs; however, if a conflict arises, the following priority for allocation will apply: (1) Forest roads or trails on or serving the National Forest Transportation System; (2) Federal, state, counties, and municipalities for off-Forest use; (3) private corporation, organization, or individual for off-Forest use.
- D. All common mineral materials sources will be developed consistent with management direction and follow an approved development plan. All users will follow an approved operating plan for each entry.

In emergency situations (life or property threatening) material may be removed without an entry operating plan but still following the source development plan. In the event that no development plan has been approved for the source, material may be removed only with written approval from the District Ranger.

- E. Any use of a materials source for timber sales other than for that specified in project plans (i.e., spur roads and landings) will be approved by the District Ranger by issuance of a mineral materials permit.

V. Responsibilities

Major work areas resulting in specific material source documentation and plans have been identified and are shown in the flow chart below (refer to Mineral Material Source Standards for description of major work areas):



- A. Management Direction
Lead Responsibility: District Ranger
- B. Development Plan
Lead Responsibility: Forest Engineer
- C. Operating Plan:
Lead Responsibility: Forest Engineer

VI. Mineral Materials Source Standards

A. Management Direction

1. Planning and decision-making will follow FSM 1950 (NEPA) guidelines and include data from a site investigation report. Result will be an Environmental Assessment Report approved by the Forest Supervisor or District Ranger depending on project authority. The EA can be done separately, in conjunction with another project, or as a supplement to the original EA if enough data is not available at Gate 2 of the timber sale gate system.
2. Specific direction will be shown as a minimum for the following items:
 - a) Development Limits
 - b) Management Objectives
 - (1) Short term or operating (i.e., crushed rock for National Forest roads).
 - (2) Long term or rehabilitation (i.e., viewpoint, timber growth)
 - c) Means of Access to Site
 - d) Project Use Envisioned in: Years
Cubic yards (or tons)
 - e) Recommended Use of Material
 - f) Constraints on Development, Rehabilitation, and Operation of Site.

B. Development Plan

1. The completed site investigation and management direction serve as the basis for development plan preparation.
2. The development plan will include as a minimum the following items:
 - a) development sequence in plan and cross sectional view.
 - b) development limits
 - c) development specifications concerning bench width, cutslope height and angle in soil and rock
 - d) designated processing and storage areas for products such as:
 - 1) overburden
 - 2) oversize excavated rock material stockpile (if oversize acceptable)
 - 3) processed rock material stockpile
 - 4) reject rock material stockpile
 - e) access road design typical section
 - f) material unit(s) identification, description, and use
 - g) rehabilitation condition in plan and cross sectional view
 - h) rehabilitation specifications, and sequence
 - i) Slash disposal area
 - j) Drainage control measures

- k) Name of preparer and date
 - l) review and approval
 - m) any drawings or cross sections will include a bar scale and north arrow or compass bearing
 - n) plan view drawings will show topographic contour lines with a maximum 5 foot contour interval (interval stated on plan legend)
3. Where suitable, an area within the materials source shall be designated for low volume (less than 500 cubic yards) entries such as permits or force account needs. For these uses, the development plan will serve as the source operating plan.

C. Operating Plan

The operating plan is one of the project plans produced as part of the timber sale report produced at Gate Three of the timber sale gate system.

- 1. The basis for producing the operating plan is the overall source development plan.
- 2. The operating plan will include as a minimum the following items, displayed in plan view or discussed in General Notes:
 - a) operating boundary (operations outside this boundary are prohibited)
 - b) development clearing limits
 - c) top of excavation limit
 - d) all access roads and their number, and any required treatment
 - e) maximum bench heights and widths
 - f) storage areas for overburden (and overburden treatment), oversize (and oversize treatment), processed stockpiles, and reject stockpiles
 - g) slash disposal and log deck areas, including special treatment of slash cleanup
 - h) coordination with other users
 - i) site prework conference requirement
 - j) drainage control measures
 - k) vicinity map showing relationship of project to Forest
 - l) date and name of preparer
 - m) plan maps will show the following:
 - (1) topographic contours at a maximum 5' interval (interval stated on plan legend)
 - (2) north arrow and bar scale
 - (3) location and identification of cross sections
- 3. The operating plan will include at least two cross sectional views drawn to scale showing the following:
 - a) cut and fill slope ratios
 - b) existing ground profile
 - c) required profile after development
 - d) adjacent vertical scale

The two cross sections are to be oriented approximately perpendicular to each other. Additional cross sections to depict profiles in special areas (e.g., stockpile areas, staging areas, etc.) can be added as needed.

VII PROCEDURAL GUIDELINES

Refer to Figure 1 (page 30) which is a flow chart showing rock resource planning steps and interrelationships.

A. Mineral Material Permits

Permits - Refer to FSM 2822.5, R-6 Supplement No. 109, July, 1964: A Key to the Methods of Disposal of Mineral Materials to Various Agencies, Users and Purposes. The current Timber Sale Contract only authorizes removal of mineral materials for specified roads. Use of mineral materials for spur roads, landings, etc., will be authorized by Free Use Mineral Material Permit (R6-2820-19).

B. Unauthorized Removal - When mineral materials are removed without authority an investigation will be initiated by the District Ranger (FSM 5320).

C. Inspection of Development Work

1. General:

- a) For any operation, a prework meeting at the site is required with the operator and F.S. inspector/ER/TSO/COR. A geotechnical specialist may attend to answer questions which may arise in discussion.
- b) Provide operator with appropriate MSHA notificaton forms at the prework. See Exhibit D

2. Proposed Site to Site Changes:

- a) Inform District Ranger of proposed changes; for new sites request Management Direction be given.
- b) Verify through geotechnical personnel the quantity and quality of material existing at the proposed site.
- c) Verify scheduling within the proposed changed site.
- d) Require operating plan at new site from operator.

3. Proposed Change of Operating Plan:

- a) Verify through geotechnical personnel that change is compatible with development plan.

4. A final Quarry Report should be made after all contract entries and permit entries exceeding 2500 cubic yards. Typical timber sale project entries use 3000-4000 cubic yards of material. Entries in excess of 2500 cubic yards are considered significant especially the cumulative effect of several such entries, because of the possibility of

variation in material quality and quantity. The purpose of the quarry report is to provide feedback to geotechnical personnel to insure that the development plan is accurate and to monitor source performance. The FS inspector/ER/COR shall complete the Quarry Report and this report shall be kept in the geotechnical source file. See Exhibit E

D. Utilization Reports

Compilation of data regarding material utilization is an essential part of overall rock resource management. The level of detail and format of this compiled data is variable depending on the needs of the use of this information. There is one specific user of this data, (the U.S. Bureau of Mines) who has given the Forest a format to report this information. The information is to be summarized on a calendar year basis and reported generally in March of the following year. Much confusion has surrounded this annual reporting in the past because overall responsibility has not been given to anyone on the Forest and because both District and Engineering have had separate portions of the report to complete.

Since the Bureau of Mines has a specific format to report the utilization information, it seems logical to use their forms for tabulating this data (see Exhibit F). Geotechnical maintains data files on sources throughout the Forest, but the actual extraction of rock is administered by Zone Engineers for contracts and by the Ranger Districts for Special Use Permits. The following procedure is intended to assign overall responsibility and methods to be followed for this area of work.

1. Overall Forest Coordination

Lead Responsibility: Forest Engineer (Forest Geologist for accomplishment)

This individual will receive the request for yearly information, inform appropriate field units, and assemble the data for reporting.

2. Contract and Timber Sale Rock Extraction

Lead Responsibility: Forest Engineer (Zone Engineers for accomplishment)

The Zone Engineers will keep a running total of quantity during each calendar year of rock material extracted or purchased for Forest use following the format shown on Exhibit F. At the end of the calendar year, the Zone Engineer will summarize the information and forward to the Forest Geologist.

3. Permit Rock Extraction
Lead Responsibility: District Ranger
Each District Ranger will keep a running total of quantity during the calendar year of permits issued for rock extraction. Exhibit F should act as a guide for the type of information to accumulate. At the end of the calendar year the District Ranger will insure that the information is summarized and forwarded to the Forest Geologist.
4. Force Account Extraction
Lead Responsibility: Road System Manager
The SO Road System Manager will keep a running total of quantity during the calendar year of rock material extracted or purchased for road crew use following the format shown on Exhibit F. At the end of the calendar year the Road System Manager will summarize the information and forward to the Forest Geologist.
5. ERFO and Special Project Extraction
Lead Responsibility: ERFO Coordinator or Road System Manager, SO Engineering
The ERFO Coordinator will keep a running total of quantity of rock material extracted during the calendar year for ERFO and other special projects coordinated in the SO following the format shown on Exhibit F. At the end of the calendar year the ERFO Coordinator will summarize the information and forward to the Forest Geologist.

E. DEMAND ASSESSMENT

The following will serve as a procedural guideline for transportation planners in periodical assessment of demand for rock materials.

1. Short Term Demand
Assessment of short term demand (up to 10 years) will be made from the following:
 - a) Action Plan for timber sale construction and reconstruction, including an estimate of rock required for spurs and landings.
 - b) Capitol investment program for road and trail construction and reconstruction.
 - c) System maintenance program for roads and trails.
 - d) Non-Forest users including private and other agencies under various agreements, share cost, and permits.

Assessment of short term demand will be updated annually in conjunction with the work planning process.

2. Long Term Demand

The Forest Plan will generate approximate long term demand figures through the transportation planning process. More reliable estimates of long term demand will be generated from area transportation plans. Since area transportation plans are still in the process of being completed, the figures for demand, other than those generated by the Forest Plan, will only be a partial summary until all area transportation plans are complete.

F. DATA STORAGE AND RETRIEVAL

1) Source Location

a) Map Overlay - 1" = 1 mile scale

Geotechnical will prepare a map overlay showing source location by number and type, such as developed, undeveloped, depleted, and closed. Potential sources will be shown on a separate overlay. Symbols will be used to distinguish types of sources. The overlay will be updated yearly and a copy will be kept in the Supervisor's Office, Engineering Zone, and District.

b) Geologic Resource Inventory - 4" = 1 mile scale.

This inventory, located at the Zones, will show the source locations on a 4" = 1 mile TRI compartment map distinguishing types of sources by symbol. This data base will be used to update the TRI system.

c) TRI System

The Minerals Subsystems of TRI will be updated as changes occur to show source location, distinguishing types of sources by symbol. When notified by geotechnical, the updating will be the responsibility of the District Subsystem Coordinator. The potential sources will not be shown on TRI overlays.

The types of sources and symbol used are defined as follows:

☐ Developed - Existing source which has been used for at least one entry.

Undeveloped - Source which has been confirmed through detailed rock source investigation and/or drilling.

☒ Depleted - Rock source where because of physical limitations (topography, stratigraphy, change in rock quality) no additional rock may be extracted. No rehabilitation completed.

- |+| Closed - Rock source which has been closed by management direction, due to visual or environmental concerns or current economic circumstances.
- ⬡ Potential - Outcrops or conspicuous landforms which may prove feasible for a source location through a later rock source investigation.
- △ Terminated - Sources permanently closed by Management direction and in need of rehabilitation.

2. Source File

- a) A file will be maintained in the Supervisor's Office and at the Engineering Zone on each materials source. The file will contain the following information: number, size (acres) and location, Management Direction, investigative status (topographic, geologic, subsurface conditions), status of development and operating plans, total and obligated quantities, quality testing results, engineering geologic parameters, correspondence, and subsurface investigative reports.

This file will be updated as new information is obtained.

Information concerning potential sources will be kept in the Geologic Resource Inventory TRI Compartment file until a rock source investigation is initiated.

- b) District File
The Ranger District will also maintain a file on each materials source containing the following: number, size (acres) and location, Management Direction, development plan, total and obligated quantities, a summary of types, suitability and uses for the materials, and correspondence.

As a minimum, this file will be updated yearly.

G. MATERIAL SOURCE SITE INVESTIGATION

1. Introduction

These guidelines serve as the Forest standard for personnel engaged in materials source investigations. Common mineral materials are non-renewable resources and the extracation must be guided by knowledgeable management decisions, which can be reached only through

site investigation. This investigation must assess location, extent, quantity, and quality of the deposit. To insure optimum use of materials, data must be obtained on the distribution and physical properties of materials involved in site development. This information will be used to assess site management direction and rehabilitation alternatives, and in site development planning.

2. Source Location

The selection process for source investigation shall involve close coordination between geotechnical and transportation planning. The process used may vary from area to area, but could involve use of map overlays and/or computer programs in the area transportation planning process.

a) Developed source

1. Insure that continued use of site is consistent with current management direction.

b) Potential Source

1. Coordinate with District and Transportation Planning to locate area of future demand; minimum volume necessary to meet demand; and surrounding land uses
2. Refer to Geologic Resource Inventory (G.R.I.) to find identified potential sources.
3. If no potential sources previously identified in the G.R.I., conduct detailed air photo investigation to locate favorable rock outcrop - landform - topographic relationships and confirm through office and field procedures outlined below.

3. Preliminary Investigation

a) Office Preparation

1. Review the G.R.I. information available for the area. Stratigraphy and structural information may prove extremely valuable during the site inventory and analysis phase of the investigation for interpretation of mass attitude and extent of the rock units.
2. Become familiar with the area through air photo interpretation.

b) Field Reconnaissance

Roads in the area should be traversed to become familiar with the area "geologic setting". The size of the area and distance from the materials source depends

1917
The first of the year
was a very dry one
and the crops were
very poor. The
weather was very
warm and the
crops were very
poor. The
weather was very
warm and the
crops were very
poor.

The second of the year
was a very wet one
and the crops were
very good. The
weather was very
cool and the
crops were very
good.

The third of the year
was a very dry one
and the crops were
very poor. The
weather was very
warm and the
crops were very
poor.

The fourth of the year
was a very wet one
and the crops were
very good. The
weather was very
cool and the
crops were very
good.

The fifth of the year
was a very dry one
and the crops were
very poor. The
weather was very
warm and the
crops were very
poor.

The sixth of the year
was a very wet one
and the crops were
very good. The
weather was very
cool and the
crops were very
good.

The seventh of the year
was a very dry one
and the crops were
very poor. The
weather was very
warm and the
crops were very
poor.

on access and complexity of the local geology, but distances of 1/2 - 1 mile are not unreasonable. The type of information to gather includes rock unit descriptions, mass attitude, stratigraphic relationships, origin and physical properties of soil units in the area (including depth of soil). The benefit of this step is that by expanding the investigation beyond the immediate potential source location, key exposures or outcrops may be observed which are not present at the site, which may aid in site interpretation.

4. Field Inventory

This step in the investigation requires investigation of surface conditions at the intensity necessary to predict subsurface conditions within a given level of confidence. The intensity of investigation (location and amount of field traverses and geologic sections) depends on materials exposure, topography, and the complexity of site geology. The scale to portray data gathered is flexible, depending on site topography and geologic complexity, but is generally 1" = 20' - 30' for geologic sections and 1" = 30' - 50' for geologic maps. It is important to remember that the purpose of these drawings is for both display and analysis - they are a working tool to be updated and changed as new information becomes available. This includes plotting and analysis of subsurface drilling data should this become available. In light of these intended uses, the scale used should facilitate display and analysis. The sections can always be reduced to a smaller scale when analysis is complete but should never be merely enlarged without increased intensity inventory.

a) Plan Map Preparation - Preliminary

A surficial geologic map with topographic contours is essential to a complete investigation. A contour map may be constructed using hand instruments if none other is available. Steps necessary for map preparation include:

1. Traverse rock source area. Range out well beyond envisioned development limits to locate outcrops.
2. Note location of all outcrops on the map and complete a rock unit description using Unified Rock Classification System

(U.R.C.S.). Any outcrops illustrating contacts between rock units should be particularly noted. The mass attitude of the rock or apparent dip should be noted where measured or inferred and shown by symbol on the map. The contact must be adequately described to enable recognition should subsurface drilling proceed at a later point in time. Information to record includes the nature of the contact (abrupt or gradational) and the contact surface (whether irregular or planar).

3. Classify soil at regular intervals and at breaks in slope or change in topographic landform and complete soil unit description form using the Unified Soil Classification System (USCS) to determine potential uses of the soil.
- b. After thorough surficial inventory, identify and assign rock and soil units based on observed similarities or differences. Insure that minimum information on soil and rock unit data sheets is complete. Designate rock units with numbers and soil units with letters to minimize confusion. Record the description and classification of both fresh and stained state rock, estimate percent volume, and sample both (if volume of stained state rock significant) to confirm quality through laboratory testing. The sample location shall be located on the base map and type of sample obtained shall be recorded.
- c. Measure geologic cross sections to depict conditions and to analyze vertical dimensions of soil and rock units. It is important to project contacts and estimate thickness of overburden and rock units at this stage of investigation to use as a basis to guide any future subsurface investigation. The location and number of sections depends on exposure, topography, and geologic complexity. If no contacts are observed, mass attitude may be estimated based on orientation of prominent planar features or local mass attitude (obtained from G.R.I.) outside of the immediate site.
- d. Finalize Plan Map
 - 1) Plot trace of contact between rock units and project onto plan map.
 - 2) Plot plan view of soil units mapped, if more than one present.

- 3) The plan map should also be updated after further investigation to show locations of cross sections, seismic lines, drill holes, test pits, and air photo targets.
- e) Go/No-Go Decision
Prior to initiation of any ground disturbance, the District Ranger should be notified to obtain approval to continue the investigation. A preliminary investigative report along with schematic development plan(s) should be presented to enable the District to analyze the intended development and determine whether specialist input is desirable at this point in time (landscape architect, cultural resource survey, etc.). This preliminary assessment process, and decisions reached, must be documented prior to the subsurface investigation on the attached form (Exhibit A). If approved, the Ranger should be advised through a cost analysis of the trade-offs involved in attaining various levels of confidence through further investigative methods.
 - f) Subsurface Investigation
The Forest Geologist should be involved at this point (if not sooner) to aid in the determination of the type of information needed and the alternative methods to gather the data necessary to reach the desired confidence level. The types of methods to be considered include:
 - 1) Seismic Interpretation
Refractive seismic interpretation is not a totally reliable confirmational tool, due to inherent assumptions which must be made concerning results. Some indicators may be obtained using this technique regarding possible depth and in-place characteristics of materials, but usually it is desirable to verify the results through direct observation by drilling and sampling. Seismic data may be useful to refine confidence in inventory data and to help locate trenches or drill holes.
 - (2) Backhoe or Dozer Trenching
This method is particularly useful to assess the characteristics of soil units at the site. If preliminary analysis indicates that the soil may prove useful for pit run or borrow material, trenching

is probably the most appropriate method of investigation. Direct observation will permit classification and allow sampling for laboratory testing.

(3) Drilling

This method is reliable for confirming overburden depth and for sampling rock units. The location of drill holes should be determined based on preliminary analysis revealing high priority locations. The drilling should be used to confirm predictions made concerning mass attitude and distribution of rock units. A measured cross section or sketch should be used in the field to help analyze drilling information as the drill hole is advanced. The depth of drill holes should be based not only on desired depth of quarry floor, but to confirm locations of contacts. It is important to obtain the same contact between two rock units in three locations when possible, in order to confirm mass attitude using the three point method. The mass attitude and rock structure, along with site topography, will effect alternate development plan configurations. One drawback to conventional core drilling is that generally coring in soil results in low recovery. Augering with the drill rig will result in some material brought to the surface along the auger flights, but it is nearly impossible to confirm in-place depth and to be certain material revealed is representative of the deposit. If the soil contains in excess of 10% cobble sizes, penetration with the auger is nearly impossible. Standard penetration sampling is ineffective if two inch diameter sizes are present. Drive barrel sampling is a possible alternative in some soils. As mentioned previously, consultation with the Forest Geologist is required to mutually determine investigative alternatives. All requests for drilling will be forwarded using the forest exploration data sheet. (Exhibit B).

g) Final Analysis

Analysis of subsurface informaton must be concurrent with the drilling or trenching operation to guide the investigation properly.

Results of exploration must be compared with predicted conditions, and alternate working hypotheses must be formulated and tested if prediction was wrong. After sufficient level of confidence is reached through exploration and analysis, a final site investigation report shall be prepared for the District. The report to the District should document the results of the investigation, potential problems with development, alternative development and rehabilitation plans, and recommendations. Final District approval will be obtained in an approved Management Direction document.

A summary report shall also be prepared for the source files documenting the investigation in more technical detail.

H. DEVELOPMENT PLAN

1. Introduction

The following, in conjunction with the Forest Standard, serves as the procedural guideline for personnel engaged in the assembly of a materials source development plan. Extraction of common mineral materials is essentially an open pit mining operation and must be guided by an overall source development plan. The development plan is based on a completed site investigation and Management Direction document (refer to materials source standards and procedures), and takes into account safety objectives, excavation sequence, optimal material utilization, adequate work areas, and source rehabilitation. The rehabilitation of a source is considered part of the overall source development and is discussed in part C of this guideline. Refer to the Development Plan standard of performance for the minimum acceptable information for the development plan.

The development materials plan is defined as drawings and specifications that direct the proper location and sequence of construction and excavation activities compatible with the site management objectives. As so defined, the development plan provides overall direction for long term source development, but is not intended to provide specific direction for every project or permit entry. These entries are directed by the operating plan (refer to operating plan standards of performance).

There is a continuing long term demand for rock for force account and permit needs. Often the volume of rock needed is low, and quite often this need can best be satisfied by easily excavated material requiring little or no processing (pit run material). To facilitate this need the development plan, when feasible, will designate a portion of a materials source to be used by permittees and force account personnel. This area will be used only when the volume of rock extracted is less than 500 cubic yards, and for this type of entry an operating plan will not be required (the development plan will guide these entries and substitute for an operating plan).

There are several factors which affect site development and potential safety problems which could arise if not considered in preparation of the development plan. These items are discussed below:

a) Factors Which Affect Site Development

1. Slope - Landform

- a) Steep slopes complicate development because material may be lost downslope during blasting or excavation, access for equipment may be difficult, adequate working area may not be available, and safety objectives may be difficult to meet.
- b) Flat ground complicates development because of potential drainage problems, access problems, and limited work space.

2. Overburden Thickness and Characteristics

It is difficult to state a numerical depth to define excessive overburden. Factors which may influence removing a particular depth of overburden to expose desired material unit for excavation include scarcity of other suitable rock within an area of need and potential use of the overburden as pit run or embankment.

3. Rock Structure

The presence or absence of planes of separation within the rock unit may affect excavation characteristics, response to blasting and processing, and the sizes available for use. Orientation of planes of separation (which should be shown on geologic plan map and sections) may increase ease of excavation along a preferred direction. Another aspect of rock

structure affecting excavation direction and depth is the mass attitude of the rock units present at a site.

4. Transmitted Ground Water

The emergence of ground water transmitted through materials units during site development may cause undesirable environmental impacts or construction problems. Presence of groundwater may also dictate the use of special blasting agents during excavation. If the site investigation analysis indicates the possibility of significant volumes of ground water, or if initial development reveals ground water to be a problem, the development plan should contain provisions for water collection or dispersal consistent with management direction.

5. Rock Mass Homogeneity

For purposes of analysis during site investigations, contacts between rock units are assumed to be planar. Often this is the case, but with igneous and pyroclastic rocks, the contact is often irregular and occasionally it is observed that rock units terminate abruptly. These factors must be considered during formulation of the development plan when establishing deposit zoning, excavation limits, direction, and depth.

b. Potential Safety Problems in Site Development

Numerous safety problems can develop during site operation, but many can be foreseen and minimized if the development plan is prepared with the following considerations:

1. Overburden must be sloped to a stable angle consistent with material characteristics and the clearing limit must be a minimum of 10 feet outside of the designed slope.
2. Adequate working room must be designed to accomodate multiple entries whenever possible.
3. Excessive grades for access (20% maximum) should be avoided when possible, particularly when adverse haul is necessary.
4. Overburden and waste sites must be designed consistent with materials characteristics to eliminate potential stability problems.
5. Rock planar and linear features must be observed and analyzed to recommend design slope ratio and to evaluate designed rock slope stability.

6. Pit wall should be designed with a uniform slope. Design height of the pit wall shall be consistent with prudent engineering design, considering topography and limitations of construction equipment.
7. Designed bench width shall be governed by the type of equipment to be used and the function to be performed by the bench (e.g. use bench for haul road, to catch rockfall, etc.).

2. Steps Necessary for Development Plan Preparation

- a) Materials source investigation must be completed
- b) Management Direction (refer to Standards Section of Plan) obtained from the District
- c) Topographic base map complete (minimum 1" = 50' scale, 5' contour interval)
- d) Based on completed investigation, deposit zoned for performance and excavation characteristics (soil and rock units).
- e) System designed for excavation and processing of materials based on cost effectiveness and within limitations of construction equipment.
- f) Sequence designed for excavation and use of materials.
- g) Site designed for work area, and stockpile areas allowing adequate work room considering the possibility of multiple concurrent entry.
- h) Haul and access roads designed to accomodate anticipated equipment.
- i) Specifications developed as needed to define potential use of soil and rock materials within the source based on laboratory test results of materials sampled from the site.
- j) The use of all materials to be encountered within the site planned, including overburden or topsoil, and rock units encountered, and suitable material stockpiled for use in rehabilitation, construction of projects, or waste.
- k) Preferred site rehabilitation plan designed consistent with management plan direction (Refer to Part C of this guideline).
- l) Confirm materials zoning, physical characteristics and potential use of material based on feedback from source operation (includes documented variation in quality, quantity, excavation characteristics, or performance). May require additional site investigative work and/or changes in development plan consistent with management direction.
- m) Development plan site survey and as-built plans updated when necessary, as significant changes in site topography occur.

A standard for material source development plan symbols is included in the plan. Refer to Exhibit C.

3. Rehabilitation Plan Preparation

The rehabilitation plan is defined as drawings and specifications directing the accomplishment of site rehabilitation intended to return the area to use compatible with management objectives as stated in the Management Direction. The rehabilitation is coordinated during site development and operation stages, and is considered part of the overall site development.

The following work items must be accomplished to produce a satisfactory rehabilitation plan in conjunction with producing the development plan:

- a) Management direction and long term resource objectives must be determined.
- b) Rehabilitation alternatives must be developed and the preferred alternatives identified.
- c) Specific treatment areas must be developed and the desired work method or end product specified.

Note: Steps a-c may already have been accomplished if the site has been addressed in an approved management direction document for the source.

- d) Plan drawings, cross sections and elevations necessary to illustrate desired end product must be developed (Examples would be grading plans and planting plans).
- e) Work to be done must be evaluated and a determination made to accomplish as a job or in stages. Interim or partial rehabilitation may be specified in the source Management Direction.

The rehabilitation plan will be prepared by geotechnical personnel and reviewed by the District Ranger and/or resource specialists as specified in the Source Management Direction. The rehabilitation plan will usually consist of conceptual drawings and sketches sufficient to depict accurately the work to be done but will not have to be drawn to scale with new contour lines unless specified in the source Management Direction.

VIII IMPLEMENTATION ALTERNATIVES

It is assumed that the Procedures portion of this Plan will be implemented immediately upon the approval of the Forest Management Team. The Standards identified in the Plan will be something that Forest personnel can work to attain, but the full implementation of the Standards will vary by the alternatives as described below.

1. High Emphasis Alternative

All presently inventoried materials sources will fully meet Forest Standards by the end of FY 1985. This anticipates completion of 54 sources in FY 1982 and 125 per fiscal year thereafter, utilizing a method of prioritization of sites. The following are criteria for prioritization:

- a) Currently obligated sources
- b) Those sources which could become obligated by FY 1985
- c) Sources with resource conflicts (e.g., visuals, wildlife, recreation)
- d) Sources which show a high potential for favorable cost/benefit ratio
- e) All remaining sources

2. Low Emphasis Alternative

Those materials sources which will become obligated for FY 1986 projects and beyond will fully meet Forest Standards prior to obligation. At best, presently inventoried sources would meet Standards by the end of 1993. However, it is likely that 50% of the 121 closed, depleted, and terminated sites will not meet Forest Standards in this time frame.

3. Status Quo Alternatives

Materials sources may or may not meet Standards depending on individuals and resource values involved. Specific accomplishment in terms of presently inventoried sources will be random.

4. All presently inventoried materials sources will fully meet Forest Standards by the end of FY 1993. Those sources which will become obligated for FY 1986 projects and beyond will fully meet Forest Standards prior to obligation.

5. All presently inventoried materials sources (including those previously terminated) will fully meet Forest Standards by the end of FY 1989. Those sources which will become obligated for FY 1984 and beyond will fully meet Forest Standards.

IX RECOMMENDATIONS

1. It is recommended that Sections IV, V, and the Preferred Implementation Alternative be published as Manual Supplements to FSM 2850 with appropriate reference supplements in FSM 7170 and 7700.
2. It is recommended that Sections VI and VII be published as Handbook Supplements to FSH 2809.
3. Recommend that the Timber Staff Officer pursue development of a contract provision that would clarify lines of authority for designation and allow identification and designation of a specific source location for removal of mineral materials for spur road landing construction.
4. Recommend that the Forest place increased emphasis on monitoring the unauthorized removal of mineral materials and pursue appropriate law enforcement action.
5. It is recommended that the Forest Engineer:
 - a) Pursue developing an automated data storage and retrieval system for mineral materials source data.
 - b) Further define the problem of current contract provisions preventing stacking of operators in sources for formal contract entries.
 - c) Continue to place emphasis in the budgeting process to identify funding needs in the Minerals and Geology Function.
 - d) Establish and update on an annual basis a Forest minimum fair market value for common mineral materials to be sold by permit.
 - e) Annually update the current situation relating to the implementation alternative selected and recommend adjustments in plan implementation when appropriate.

X DECISION BY FOREST MANAGEMENT TEAM MARCH 16, 1982

The Forest Management Team agreed to accept the plan as presented with several minor changes. The Procedures portion of the plan became effective upon acceptance on March 16, 1982. The Standards portion of the plan will be something Forest personnel can work to attain, but full implementation of the standards will take place as described in the selected implementation alternative. The Management Team selected Alternative 2 as the minimum, with the Forest making an effort to reach Alternative 4 as opportunities develop. Alternative 2 is summarized below:

- Those materials sources which will become obligated for FY 1986 projects and beyond will fully meet Forest Standards prior to obligation.
- At best, presently inventoried sources would meet standards by the end of 1993. However, it is likely that 50% of the 121 closed, depleted, and terminated sites will not meet Forest Standards in this time frame.

In attempting to meet Alternative 4 as opportunities develop, the District Ranger may use the following criteria for prioritization:

1. Sources which could become obligated by FY 1993.
2. Sources with resource conflicts (e.g., visuals, wildlife, recreation).
3. Sources which show a high potential for favorable cost/benefit ratio.

A proposed recommendation was presented to the Management Team that the Task Force conduct one or several workshops for Forest personnel involved in rock resource management to insure understanding and commitment to the Plan. This recommendation was rejected due to the costs involved. The Management Team decided it was up to the Rangers and Staff to insure that understanding was attained and that the Plan was followed.

All remaining recommendations presented in the Plan were accepted as shown.

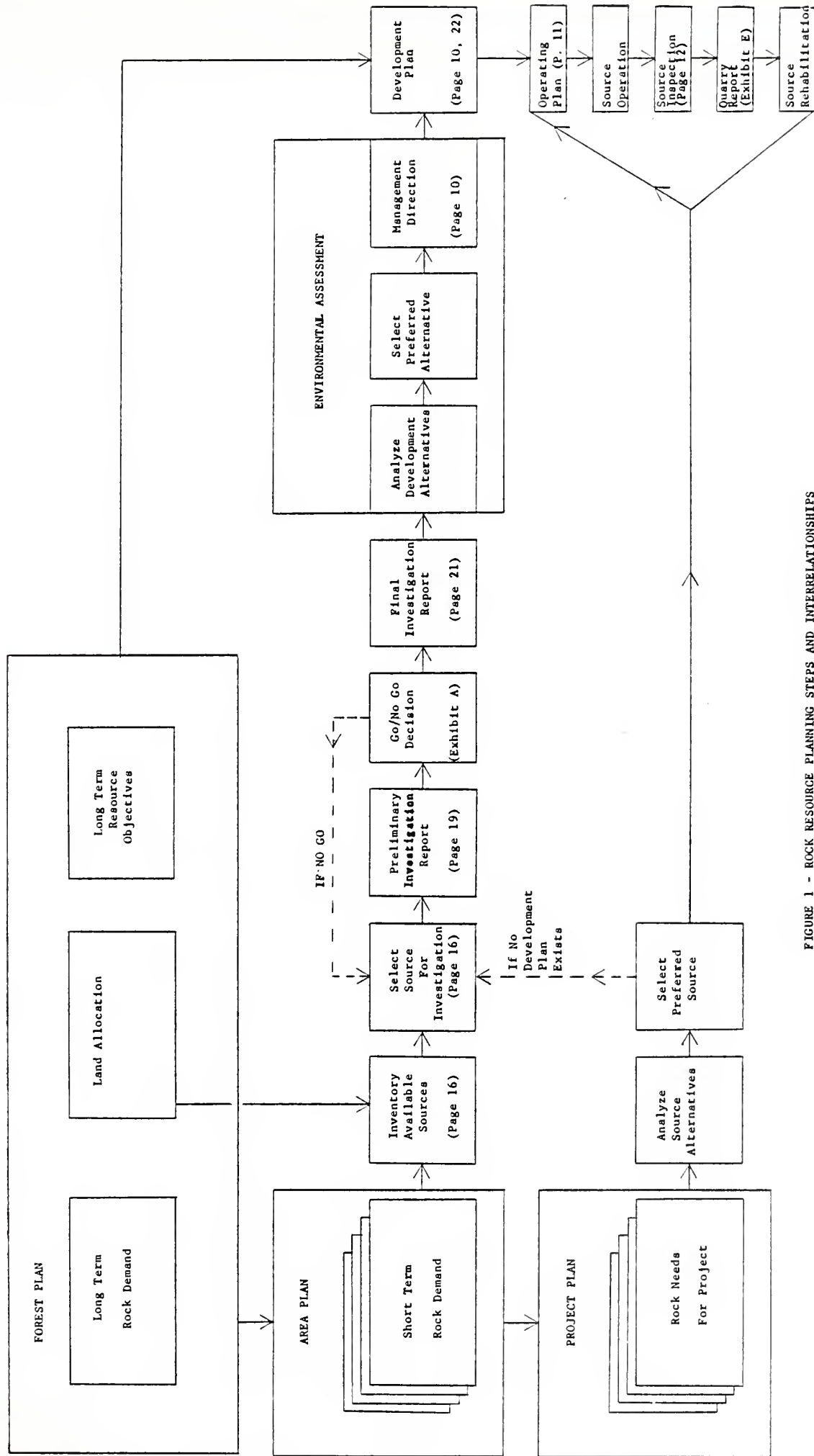


FIGURE 1 - ROCK RESOURCE PLANNING STEPS AND INTERRELATIONSHIPS

EXHIBITS

EXHIBIT A

MATERIALS SOURCE GO/NO GO DECISION DOCUMENT

Source Location:

Description of Area:

Need for Source:

Potential Volume:

Estimated Duration of Development:

Alternate Development Methods:

Alternative Sources (Developed, Potential, and Closed) Within the Area:

Preliminary Investigation Summary:

Confidence Level of Preliminary Investigation:

Exhibit A

Rehabilitation Alternatives:

Further Investigation Needed and Possible Effects:

PRELIMINARY INPUT ROUTING:

Visual Quality Objectives and Impacts:

Wildlife

Hydrology

Cultural

Constraints to Investigation and Development:

Continue Investigation:

Discontinue Investigation:

District Ranger

Date

EXHIBIT B

EXPLORATION DATA SHEET

Requested by _____ Date Requested _____

PROJECT Job Name _____ Terrain Location _____

LOCATION Zone _____ District _____ Road No. _____

Drainage Basin _____ Tricompartiment _____ T _____ NR _____ E Sec. _____

Charge Number _____

EXPLORATION METHOD Type of Exploration _____

Type of Material to be explored: Soil _____ Rock _____ Combination _____

Number of Holes _____ Estimated Depth of Holes _____

Sampling Procedure _____ Samples Delivered Where _____

Auger Size _____ Core Size _____

Vertical Holes _____ Angle Holes _____

SITE CONDITIONS

Slope % at drill sites _____ Can Drive to site _____ Dozer Needed _____

Drilling water at site _____ Drilling Water _____ feet from site.

Will have to haul water _____ Who will haul _____

ROCK UNIT (S)

U.R.C.S.: _____

Grain Size _____

Unit Joint Block _____

SURVEY CONTROL

Horizontal Control Established on the site _____ What kind _____

Vertical Control Available _____ TBM _____ Map Contours _____ Estimated _____

LIMITATIONS Weather restrictions _____ Site Elevation _____

Environmental restrictions _____

COORDINATION Person on the ZONE/District to contact for additional details _____
Phone No. _____

SO Assistance Needed _____ Date Field Work Must be Completed _____

PREWORK Soil Units Designated _____ Rock Units Designated _____

Soil and Rock Units Mapped in Plan View _____

Trace of Contact (s) on Plan Map _____

Geologic Sections Measures _____

REMARKS

Exhibit B

EXHIBIT C

STANDARD FOR MATERIAL SOURCE DEVELOPMENT PLAN SYMBOLS

Roads



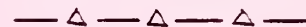
Clearing Limit



Slash Disposal Area



Overburden Disposal Area



Material Source Area (Ultimate)



Development Direction/Bench Configuration



Stockpile Site



Staging Area



Trees



Oversize Stockpile Site



Reject Material Stockpile Site



Other symbols which may be used to depict material units and overburden are left to the discretion of the preparer

Exhibit C

EXHIBIT D

To: Mine Safety and Health Administration
Metal and Nonmetal Mine Safety and Health
117 - 107th Avenue N. E.
Bellevue, Washington 98004

From:

(Company)

(Street or P. O. Box No.)

(Town and State)

(Zip)

In accordance with Standard .26-1, Metal and Nonmetal Mine Health and Safety Standards, which reads as follows:

(55,56,57).26-1

Mandatory-The owner, operator, or person in charge of any metal and nonmetal mine shall notify the nearest Mining Enforcement and Safety Administration, Metal and Nonmetal Mine Health and Safety subdistrict office, before starting operations, of the approximate or actual date mine operation will commence. The notification shall include the mine name, location, the company name mailing address, person in charge, and whether operations will be continuous or intermittent.

When any mine is closed, the person in charge shall notify the nearest subdistrict office as provided above and indicate whether the closure is temporary or permanent.

We wish to inform you that the following mining operation will:

Begin continuous operation

☐

Begin intermittent operation

☐

Be temporarily closed

☐

on or about

(date)

Be permanently closed

☐

QTR SEC. TN. RANGE

(Mine Name)

(Identification Number, if any)

Telephone No.

(Location)

(Official in charge)

Signed: _____

EXHIBIT E

QUARRY REPORT

Prepared By _____

Title _____

Date _____

QUARRY NAME AND NUMBER:

PROJECT OR ENTRY:

DESIGN QUANTITY:

ESTIMATED REMOVED QUANTITY (CHANGE ORDER, DELETION, ETC.):

DATE OF MATERIAL REMOVAL:

TYPE OF MATERIAL REMOVED (SOIL, ROCK (CRUSH, RIPRAP), REJECT, OVERSIZE, ETC):

DESIGN SPECIFICATION(S) (GRADATION, RIPRAP CLASS, ETC.):

EXCAVATION METHOD USED:

IF BLASTING, WHAT METHOD (PATTERN, SPACING, DELAYS, AND
EXPLOSIVE AGENT):

RESULTS OF BLASTING

AVERAGE FRAGMENT SIZE:

PERCENT OVERSIZE (2' MINIMUM DIMENSION):

DEVELOPMENT PLAN FOLLOWED:

EXCESS YARDAGE CRUSHED (STOCKPILE):

REJECT YARDAGE (STOCKPILE):

REMARKS:

EG - WAS DESIGN SPEC. BEST FOR PROJECT
DID MATERIAL MEET SPECIFICATIONS FOR QUALITY
WAS OVERBURDEN DEPTH AS DESIGNATED
WAS VARIATION IN ROCK QUALITY OR QUANTITY OBSERVED
SHOULD DEVELOPMENT PLAN BE MODIFIED
ANY POTENTIAL SAFETY PROBLEMS

EXHIBIT F

REGION SIX FOREST SERVICE
MINERAL MATERIAL UTILIZATION

CALENDAR YEAR _____

FOREST _____ STATE _____

COUNTIES INCLUDED IN REPORT _____

Instructions: This report is to be used by the Bureau of Mines for statistical purposes.

Engineering projects estimates of production or use on construction, reconstruction, or maintenance projects are to be based on knowledge of overall engineering program activities. References to or analysis of detailed detailed records is not required.

Mineral Materials Permits - Production data must be developed from the best available information.

Please report by States where Forest boundaries cross State lines.

PRODUCTION FROM FOREST LANDS
(Including Production by Mineral Materials Permits)

PRODUCTION BY METHOD 1/

Public Works Contracts	_____	Tons
Service or Supply Contracts	_____	Tons
Timber Sale Contracts	_____	Tons
Mineral Materials Permits	_____	Tons
Other (Describe) _____	_____	Tons

Total Production 2/ _____ Tons

PRODUCTION BY SOURCE TYPE 1/ 3/

Pits - Natural Broken Stone	_____	Tons
Gravel or Sand	_____	Tons
Quarries	_____	Tons
Stream Bars or Benches	_____	Tons

Total Production 2/ _____ Tons

PRODUCTION BY GEOLOGIC CLASSIFICATION 1/ 3/

Granite	_____	Tons
Sandstone or Sedimentary	_____	Tons
Trap Rock (Basalt, Andesite, Gabbro)	_____	Tons
Scoria or Cinders	_____	Tons
Other (Specify) _____	_____	Tons

Total Production 2/ _____ Tons

PRODUCTION BY END USE 1/ 3/

Natural Stone or Gravel

Rip-rap or Revetment	_____	Tons
Building Stone (Flagstone, Ashlar, etc.)	_____	Tons
Landscape Rock	_____	Tons
Pit-run Sub-base, Base or Surfacing <u>3/</u>	_____	Tons
Concrete Aggregate	_____	Tons
Miscellaneous Specialty Items	_____	Tons
Other Use (Specify) _____	_____	Tons

Subtotal

_____ Tons

Manufactured Stone or Gravel

Crushed Roadway Base or Surfacing <u>3/</u>	_____	Tons
Crushed Bituminous Aggregate <u>3/</u>	_____	Tons
Miscellaneous Specialty Items	_____	Tons
Other Use (Specify) _____	_____	Tons

Subtotal Manufactured Stone or Gravel

_____ Tons

Total Production 2/

_____ Tons

1/ Estimates of production must not include purchase from commercial sources, which is listed separately.

2/ Total of these tabulations must equal Production by End Use.

3/ Includes surface replacement.

AGGREGATE MATERIALS
USED FOR CONSTRUCTION, MAINTENANCE, OR RESURFACING ROADS
CALENDAR YEAR _____

PRODUCED FROM FOREST LANDS - RESURFACING ONLY 1/

Pit Run Aggregate			
Single Lane	_____	Mi.	_____ Tons
Double Lane	_____	Mi.	_____ Tons
Crushed Aggregate			
Single Lane	_____	Mi.	_____ Tons
Double Lane	_____	Mi.	_____ Tons
Bituminous Aggregate			
Single Lane	_____	Mi.	_____ Tons
Double Lane	_____	Mi.	_____ Tons

1/ Include in Production by End Use, Sheet 1

PURCHASED FROM COMMERCIAL SOURCES 2/

Type of Material Purchased

Pit Run Base or Surfacing	_____	Tons
Crushed Base or Surfacing	_____	Tons
Concrete Sands	_____	Tons
Concrete Aggregate	_____	Tons
Rip-rap or Revetment	_____	Tons
Other (Specify) _____	_____	Tons
Total Materials Purchased	_____	Tons

2/ Do not include in Production by End Use, Sheet 1

Use of Crushed Materials Purchased

FOR NEW OR RECONSTRUCTION

Crushed Base or Surfacing

 Single Lane

 Double Lane

Bituminous Surfacing

 Single Lane

 Double Lane

FOR SURFACE REPLACEMENT

Crushed Base or Surfacing

 Single Lane

 Double Lane

Bituminous Surfacing

 Single Lane

 Double Lane

Report Prepared By _____ Date _____

MINERAL MATERIALS PRODUCED UNDER PERMITS
IN CALENDAR YEAR 19

Size Range of Permit in Cubic Yds.	Number of Permits Issued	Geologic Class of Material <u>1/</u>	Total Cubic Yards Produced <u>2/</u>	Total Tons Produced <u>3/</u>
0 to 10	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
10 to 100	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
100 to 500	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
500 to 1500	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
1500 to 5000	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
Over 5000	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

4/ Insert this total in Production by Method Sheet 1; also Total Production by each Geologic Classification and carry to Sheet 1

Report Prepared By _____ Date _____

EXHIBIT G



United States
Department of
Agriculture

Forest
Service

Gifford Pinchot NF

500 West 12th Street
Vancouver, WA 98660

Tim R 21

Re: 2800 Minerals and Geology
(E)

Date: September 17, 1981

Subject: Forest Rock Resource Management Task Force Appointment

To: District Rangers, Nurseryman, and SO Staff

The Forest Management Team decided in August 1981 to allow Mel Teigen, Forest Engineer, to select members for a Forest Rock Resource Management Task Force consistent with the intent of a modified Alternative A interdisciplinary membership. The following individuals are hereby appointed to the task force:

- Jim Bull, Mt. Adams District Ranger
- Bob Yoder, Zone I Engineer
- Dave Porter, Landscape Architect
- Allen Morrisette, Transportation Planner
- Roger Williams, Land Management Planner
- Tom Reilly, Forest Geologist

Tom Reilly will serve as the chairperson of the task force. As agreed in the August meeting, the group will attempt to complete a draft Rock Resource Management Plan by January 31, 1981.

The objectives of the Plan are as follows:

1. Assign responsibilities and roles to individuals and units on the Forest and develop a systematic coordinated process to best manage the rock resource.
2. Formulate Forest policy regarding rock removal and provide direction for administration and implementation relating to permits, timber sales, and public works contracts, addressing both short and long term (excess of 20 years) needs.
3. Establish guidelines for minimum input necessary for management direction, rock source location, investigation, development, operation, and rehabilitation.
4. The plan be consistent with and incorporated as part of the Forest Plan.



EXHIBIT G

The draft Plan will be reviewed by all Forest organizational units, comments and revisions reviewed and incorporated into the draft by the task force, and the final draft approved by the Forest Management Team with the tentative completion date of March 31, 1981. Meeting dates and location will follow soon.



ROBERT D. TOKARCZYK
Forest Supervisor

cc: District Ranger, Mt. Adams RD
Bob Yoder, Zone I
Dave Porter, SO
Allen Morrisette, Zone II
Roger Williams, SO
Tom Reilly, SO



United States
Department of
Agriculture

Forest
Service

GIFFORD PINCHOT N.F.

500 WEST 12TH STREET
VANCOUVER, WA 98660

2800 Minerals and Geology
(E)

Date October 1, 1981

Subject Rock Resource Management Task Force--Meeting #1

To All Members

The first meeting of the Forest Rock Resource Management Task Force will be held on October 20-21, 1981, in the east half 1st floor conference room of the Supervisor's Office. The meeting will begin at 9:30 a.m. on Tuesday and finish on or before 3:00 p.m. on Wednesday the 21st. Enclosed you will find "pre-work" consisting of several informational items concerning our task. Please try to review these items if possible before our meeting to refresh your memory concerning our objectives, what other Forests in the Region are doing, and where we are currently on this Forest.

The intent of this first meeting is to clarify our objectives and mutually determine the best course of action to accomplish the goal of producing an inclusive workable Forest Rock Resource Management Plan. Possible agenda items include discussion of common problems occurring as a result of lack of current direction and ways to prevent reoccurrence; need for training and/or field trips to understand terminology and location, investigation, and design criteria; new WO-RO direction concerning common mineral materials; and current Forest District/Engineering organization and responsibilities.

My intent is to mutually determine specific agenda at the start of our meeting. I look forward to working with everyone of you to draft the best possible plan for the Forest.

Thomas K. Reilly
THOMAS K. REILLY
Forest Geologist

Enclosures (8)

cc: Task Force Members:

Jim Bull - Mt. Adams R.D.
Bob Yoder - Zone I Engineer
Dave Porter - SO
Allen Morrisette - Zone II
Roger Williams - SO
Tom Reilly - SO





United States
Department of
Agriculture

Forest
Service

GIFFORD PINCHOT N.F.

500 WEST 12TH STREET
VANCOUVER, WA 98660

Re: 2800 Minerals and Geology
(E)

Date October 26, 1981

Subject Summary of Rock Resource Task Force, Meeting #1

To All Members

The first meeting of the Forest Rock Resource Management Task Force was held in the Supervisor's Office on October 20-21, 1981. All members were in attendance. The objectives for the first meeting were defined by the group as follows:

1. Clarify overall objectives.
2. Situation update--where we are and what we do now--organization responsibilities as currently defined.
3. Develop a schedule and work plan to accomplish task.

The group, in attempting to clarify overall objectives, decided that objectives were two-fold: (1) Task Force objectives and (2) Plan objectives. The Task Force objectives were determined:

1. Define the Forest Rock Resource Management process and assign roles and responsibilities.
2. Formulate recommendations for Forest policy regarding rock removal and determine direction for administration and implementation addressing both short (up to 10 years) and long-term (excess of 10 years) demand after analysis of the current situation.
3. Determine standards of performance for material site management direction, location, investigation, development, operation, and rehabilitation.
4. Rock Resource Plan recommended be consistent with and incorporated as part of the Forest Plan.
5. Identify barriers and develop alternative recommendations to overcome those barriers which inhibit efficient rock resource management.

The objectives of the Rock Resource Management Plan were defined as follows:

1. Define the Forest Rock Resource Management process and assign roles and responsibilities.



2. State Forest policy regarding rock removal and establish direction for administration and implementation addressing both short (up to 10 years) and long-term (excess of 10 years) demand in light of the current situation.

3. Establish standards of performance for material site management direction, location, investigation, development, operation, and rehabilitation.

4. The Rock Resource Plan be consistent with and incorporated as part of the Forest Plan and existing Forest Programs.

During the situation update the task force identified problem areas and barriers to effective rock resource management. These areas are described as follows:

1. Location and form of data storage and use--District often does not know what is available and where to look.

2. Minerals and Geology Management has not received emphasis in the past (dollars, ceilings, and program management).

3. Responsibility for Minerals and Geology Program direction is not clearly defined on the Forest.

4. No check points for go-no-go decisions exist in the development of materials sources.

5. Inadequate consideration of management direction and site rehabilitation in current development planning process.

6. Existing sites need rehabilitation work.

7. Existing sites have no management, development, or rehabilitation plans or only "one entry, plans".

8. No estimate exists for long-term rock needs (Federal, State, private).

9. No priorities or criteria for priorities exist for use of materials (both type of material used or priority for potentially competing users).

10. Currently no cultural resource management review of activities.

11. With possibility of opted sales and a formal contract entry, current contract provisions prevent stacking of operators in sources.

12. Forest lacks control in the following areas:

- (a) Access to source--possibility of unauthorized removal.
- (b) In the administration of source development.
- (c) In administration of management direction.

13. Existing culture among crushing Contractors "run operation the way they see fit".

14. No review process is defined to assess proposed changes or final accomplishment against original planning.
15. No feedback loops exist to document actual operation.
16. Lack of knowledge by administration personnel as to planning "whys".
17. Forest uncertain of MSHA requirements concerning the notification of MSHA prior to quarry operation.
18. Force account versus Contractor standards of operation often different.
19. Force account rock needs not met by using designated source.
20. Budgeting for materials management:
 - (a) How do we get money.
 - (b) For what can we obtain money.
 - (c) Who asks for money.
21. Criteria for source location and materials specification for spur roads does not exist.
22. Contract clauses do not allow designation of source for spur road rock.
23. Value assignment for rock materials (.10/cu. yd.) out of date.
24. No assigned recordkeeping or criteria (quantities and types of materials used).

The Task Force then grouped the problem areas and barriers under general headings of R-6 Supplement No. 46 requirements for Forest Rock Resource Management Plans:

<u>General Supplement No. 46 Requirements</u>	<u>Number of Problem Areas</u>
A. <u>Inventory Resource Potential</u>	9-21
B. <u>Demand Projection</u>	8-9
C. <u>Develop Procedures</u>	1-4-5-6-7-10-12- 13-14-15-16-17-19- 20-21-24
D. <u>Assign Responsibilities</u>	3-12-13-20-23-24
E. <u>Development Management Objectives (Policy)</u>	2-5-6-7-9-11-18-22-23

As can be seen, several problem areas and barriers overlap between general requirements areas. The group identified the fact that areas C-D-E were closely related and that by defining policy and developing procedure, the responsibility would be defined. These problem areas, barriers, and general requirements will act as guideposts during the formulation of the Plan to insure a complete and comprehensive end product.

In discussing formulation of a work plan and schedule, the task force considered several process alternatives to best accomplish the job within the desired timeframe. The group discussed the format and content of the recently completed Olympic National Forest Rock Resource Plan and together with consideration of problem areas developed and general Supplement No. 46 requirements mutually determined the following work tasks to be completed by task force members before the next meeting (names of individuals assigned in parenthesis):

1. What is current data regarding:
 - (a) Supply (existing/potential--what is reliability) (Reilly)
 - (b) Demand (Yoder, Morrisette)
 - (c) Obligated materials (sales sold) (Yoder, Morrisette)
 - (d) Management direction for sources (Reilly)
 - (e) Development plan for sources (Reilly)
 - (f) Operating plans for sources (Reilly)
 - (g) Rehabilitation plan for sources (Reilly)
2. How much Forest policy from Olympic National Forest Plan repeats existing manual policy? (WO, RO) (Bull)
3. What is criteria for what should be included in the FSM? (Bull)
4. Does TRI allow adequate storage of Rock Resource Data? (Williams)
5. Are other data storage systems available? (Williams)
6. What are the standards that Plan and Forest Direction should meet to mesh with Forest Planning effort? (Reilly, Williams)
7. Estimate of work needed to determine future demand: (Yoder, Morrisette)
 - (a) Short-term (up to 10 yrs.)
 - (b) Long-term (excess of 10 yrs.)
8. What is the current (or proposed) standard for:
 - (a) Management direction (Bull)
 - (b) Site investigation (Reilly)
 - (c) Development plan (Reilly)
 - (d) Operating plan (Yoder)
 - (e) Rehabilitation plan (Porter)
9. Is the standard (#8) what we want? (Group resolution 11/24-25)
10. How much work will be required to meet standard? (same as #8)
 - (a) Management direction (Bull)
 - (b) Site investigation (Reilly)
 - (c) Development plan (Reilly)
 - (d) Operating plan (Yoder)
 - (e) Rehabilitation plan (Porter)

11. What are the applicable State and Federal laws, regulations, and processes which affect our rock resource management, and what are their implications?

- (a) NFMA (Williams)
- (b) MSHA regulations (Reilly)
- (c) OSHA regulations (Reilly)
- (d) Clean Water Act (Porter)
- (e) Federal Mined Lands Reclamation Act (Porter)
- (f) Washington Surface Mining Act (Porter)
- (g) Mineral Materials 36 CFR 251.4 and 36 CFR 251.4.a. (Reilly)

The final accomplishment by the task force during the October 20-21 meeting was the development of a tentative work plan and schedule to complete the task within the desired timeframe:

- 11/24-25/81 Meeting--Objectives: Present information on assigned topics; analyze and discuss implications of information presented and evaluate shortfalls; formulate tentative policy statements; identify next assignment on standards, procedures, and responsibilities; define end product.
- 1/12-13/82 Meeting--Objectives: Present information on standards of performance, procedures, and responsibilities; assign writing tasks; finalize Forest policy statements.
- 2/9-10/82 Meeting--Objectives: Assemble rough draft of Plan; develop implementation plan.
- 2/12/82 Draft ready for typing.
- 3/1/82 Review Draft Plan typed, mail ready.

Thomas K. Reilly

THOMAS K. REILLY
Forest Geologist

cc: Jim Bull - Mt. Adams R.D.
Bob Yoder - Zone I
Allen Morrisette - Zone II
Dave Porter - SO
Roger Williams - SO



United States
Department of
Agriculture

Forest
Service

Gifford Pinchot NF

500 West 12th Street
Vancouver, WA 98660

Re: 10:

2800 Minerals and Geology
(E)

Date December 31, 1981

Subject:

Summary of Rock Resource Task Force, Meeting #2

To:

All Members

The second meeting of the Forest Rock Resource Management Task Force was held in the Supervisor's Office on December 21-22, 1981. The meeting was originally scheduled for November 24-25, but was postponed consistent with national direction stating that for that time period non-essential travel and meetings should be curtailed. All members were in attendance. The agenda for the second meeting was defined by the group as follows:

1. Hot topics
2. Presentation of information gathered on assigned topics
3. Analysis and discussion of presented information
4. Definition of end product (Rock Resource Management Plan)
5. Identification and assignment of work to be done for the next group meeting concerning standards of performance, procedures, and responsibilities
6. Formulation of tentative policy statements

The accomplishments of this second meeting will be summarized in this memo in order of the agenda items considered as listed above.

1. Hot Topics

- a) Meeting days and dates: Nearly one month was lost in the original timetable for Plan production because the scheduled November meeting was cancelled. During the first meeting in October, a series of meetings had been scheduled to complete the draft Plan by March 1, 1982, including the third meeting set for January 11-12, 1982. In order to attempt to meet the original deadline but to allow for preparation for the next meeting, the group decided to postpone this meeting until January 21-22, 1982. Also, since three members of this group are members of the Forest Interdisciplinary Team working on the Forest Land Management Plan, the Rock Resource group agreed not to meet on Mondays or Tuesdays, because these days have been reserved for I.D. Team meetings. The remainder of meetings necessary to complete this task will be scheduled at the next and subsequent meetings.



- b) A letter was received by the Forest Supervisor from Harold Lange, Wind River District Ranger, concerning the Rock Resource Plan. The letter requested consideration of rock haul distance and haul economics and the use of roadside rock quarries. The group agreed to add these items to the list of problem areas or barriers to efficient rock resource management developed in the first meeting, to be used as guideposts during the formulation of the plan to insure a complete and comprehensive end product.
- c) Tom Reilly received a copy of the recently completed Umpqua National Forest Rock Resource Plan and provided copies to the group members for reference.

2-3 Presentation and analysis of information on assigned topics (Refer to 10/26/81 2800 memo concerning assigned topics): The information presented will be summarized and presented at the next meeting by Tom Reilly under the heading of "Assessment of the Current Situation."

4. Definition of End Product (Rock Resource Management Plan). Following discussion and analysis of presented information, the group determined the format and outline of the Forest Rock Resource Management Plan.

- a) Draft Plan: Consensus of the group was that a draft should be completed and presented to the Forest Management Team for analysis and comment. The Draft will consist of a bound document having the following outline:

1. Cover Page/Table of Contents
2. Introduction, stating purpose, scope, objectives
3. Assessment of the current situation
4. Recommended Manual and/or Handbook Supplements

Objectives)

Policies)

Responsibilities)

Delegations)

Manual Supplement

Standards)

Instructions)

Procedures)

Handbook Supplement

5. Implementation Alternatives

It was felt that, unless the final product appeared in the Forest Directives System (Manual or Handbook), it would not carry authority and could be overlooked. It was also decided that increased emphasis on rock resource management could impact other existing programs, hence the Management Team may wish to consider implementation alternatives, particularly concerning procedures, responsibilities, and standards of performance.

- b) Final Plan: After review and comment, the final rock resource plan will have the following format and outline -- a bound document containing:
1. Cover page/table of contents
 2. Introduction stating purpose, scope, objectives
 3. Assessment of current situation
 4. Recommended Manual and/or Handbook Supplements
 5. Implementation schedule

Manual and/or Handbook supplements will be finalized and included as Forest supplements in the directives system as soon as possible after the Final Plan is complete.

The group also agreed that, following completion of the Final Plan, one or a series of workshops should be held on the Forest to increase understanding of and commitment to the Forest Rock Resource Management Plan.

5. Identification and Assignment of next work topics:
The group identified the following work tasks to be completed by task force members before the next meeting (names of individuals assigned in parenthesis):
- A. Draft Proposed Standards of Performance
 1. Management Direction (Bull)
 2. Site Investigation (Reilly)
 3. Development and Rehabilitation Plan (Reilly, Porter)
 4. Operating Plan (Yoder)
 5. Short Term Demand Assessment (Morrisette)
 6. Long Term Demand Assessment (Morrisette)
 - B. Identify Existing and/or Proposed Administrative Procedures
 1. Permits (Bull)
 2. Inspection of Development Work (Yoder)
 3. Data Storage and Retrieval - How (Williams)
 4. Data Storage and Retrieval - What (Morrisette)
 5. Utilization Reports (Reilly)
 6. Overall Flow Chart (Reilly)
 7. Access and Unauthorized Removal (Bull)
 8. Responsibilities (Reilly)
6. Formulation of Tentative Policy Statements
The last agenda item for the December meeting was discussion and formulation of tentative policy statements for the Plan. Review of other Forest Rock Resource Plans revealed that many of their "policy statements" were not merely Forest policy but Forest Service Manual direction. The group agreed to confine policy statements to actual Forest policy. The tentative statements agreed upon were:
- A. Use of any location for a common mineral materials source will be documented by an approved environmental assessment.

- B. Rock materials used will not exceed minimum project quality requirements unless no other alternative is available.
- C. The Forest will attempt to provide mineral materials in response to other federal, state, or local governments, industry, and private needs; however, if a conflict arises, the following ranking for allocation will apply:
 - (1) Forest roads or trails on or serving the National Forest Transportation System;
 - (2) Federal, state, counties, and municipalities for off-Forest use;
 - (3) private corporation, organization, or individual for off-Forest use.
- D. All materials sources will be developed consistent with management direction and following an approved development and rehabilitation plan. All users will follow these plans in source development.

The next Forest Rock Resource Task Force meeting will be on January 21-22, 1982 in the Supervisor's Office, east half first floor conference room. The meeting will start at 9:30 a.m. on 1/21 and adjourn by 3:00 p.m. on 1/22. The agenda will be as follows:

- 1. Present and review information presented on standards of performance, procedures, and responsibilities.
- 2. Finalize Forest policy statements.
- 3. Review draft of introduction and assessment of current situation.
- 4. Assign writing tasks

Thomas K. Reilly
THOMAS K. REILLY
Forest Geologist

cc: Jim Bull, MARS
Bob Yoder, Zone I
Allen Morrisette, Zone II
Dave Porter, S.O.
Roger Williams, S.O.



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Gifford Pinchot NF

500 West 12th Street
Vancouver, WA 98660

Re: 2800 Minerals and Geology
(E)

Date: January 27, 1982

Subject: Summary of Rock Resource Task Force Meeting #3

To: All Members

The third meeting of the Forest Rock Resource Management Task Force was held in the Supervisor's Office on January 21-22, 1982. All members were in attendance. The agenda for the third meeting was defined by the group as follows:

1. Hot Topics.
2. Presentation and review of information on assigned topics: Assessment of the current situation, standards of performance, procedures and responsibilities.
3. Assignment of writing tasks.
4. Review and finalization of policy statements.
5. Analysis of the list of problem areas and barriers to effective rock resource management developed in the first meeting.

The accomplishment of this third meeting will be summarized in this memo in order of the agenda items considered as listed above.

1. Hot Topics:

a. A letter from the Director of Engineering, RO, was received by the Forest Supervisor concerning the Mine Safety and Health Administration (MSHA). This letter stated that this agency has temporarily suspended all enforcement of regulations pertaining to sand, gravel, and crushed stone operations until at least March 31, 1982, due to funding problems. Inspection of these operations will be conducted by the States of Washington and Oregon under OSHA state plans until further notice. The RO recommended that in the interim design of pits and quarries shall conform to existing MSHA standards. A copy of this letter is attached.

b. Work Progress and Schedule. The first meeting of the task force produced a work schedule designed to outline steps and meetings necessary to complete the Rock Resource Plan by March 1, 1982. The second meeting date was postponed and rescheduled one month later than the original schedule indicated



(refer to second meeting summary dated December 31, 1981). This third meeting was held two weeks later than originally scheduled. The group discussed the possibility of having the draft plan completed prior to the next Forest Management Team meeting on March 16-18, 1982, for review and approval, consistent with the original time table. All members agreed that this was desirable to provide implementation prior to the 1982 field season. In order to accomplish this, the group agreed on the following sequence of activities:

(1) Tom Reilly will assemble a draft plan and send copies to members no later than February 19, 1982. In order to do this, any unfinished portions of the plan will be completed by members and sent to Tom prior to February 12, 1982, for editing and inclusion.

(2) The group will meet next on February 26, 1982, at 8:00 a.m. in the Supervisor's Office to review and finalize the draft and assemble an implementation alternatives package.

(3) Tom Reilly will prepare the final draft to be mail-ready by March 5, 1982. This will allow for mail delivery with a minimum of one week's time for management team review. The prework will also include copies of meeting minutes to provide background of the process followed to arrive at the draft as presented.

(4) At the Forest Management Team meeting March 16-18, 1982, the draft will be presented with the objective being a decision by the team on acceptance and preferred alternative for implementation. Jim Bull will be the Management Team facilitator for the topic. The presentation will provide 10-15 minutes of background and summary, and will focus primarily on the implementation alternatives. This will allow for 45-50 minutes for discussion and decision by the team on implementation.

2. Presentation and review of information on assigned topics:

a. Assessment of the Current Situation. Tom Reilly presented the write-up of information discussed by the task force at the second meeting. The group critiqued and edited this draft and Tom will submit for final draft typing.

b. Standards of Performance.

(1) Management Direction. Jim Bull presented a draft on this topic, which the group critiqued and edited. Tom Reilly will submit this item for final draft typing.

(2) Site Investigation. Tom Reilly presented this topic and the group, after critique and review, decided that this is more of a procedural item which, though necessary, should be handled differently than originally intended. Manual/Handbook

criteria states that an item must apply to more than one organizational subunit and, since this area of work is more of a functional procedure for a subunit, it should not appear in the body of the plan. Tom will edit and have available for the next meeting for the group to decide whether it should be contained as an appendix or handled separately and referenced.

(3) Development and Rehabilitation Plan. Tom Reilly and Dave Porter presented this draft and, after critique, the group agreed that much of the draft was procedural as was the site investigation draft. The group wrote a new standard and Tom will edit and submit for final draft typing. The group also decided to shorten the title to simply "Development Plan" as rehabilitation will be considered as a part of overall site development.

(4) Operating Plan. Bob Yoder presented this draft, which was critiqued and edited by the group. Tom Reilly will submit this item for final draft typing.

(5) Short and Long-term Demand Assessment. Allen Morrisette presented this draft, and critique and review revealed this to be a procedural area of work applying to Transportation Planning. The group edited the draft and Tom Reilly will submit for final typing. The group will decide what to do with this item at the next meeting, along with the site investigation item.

c. Existing/Proposed Administrative Procedures. The group did not have sufficient time available at this meeting to review these assigned topics, with the exception of the overall flow chart and responsibilities. The remaining items will be finalized by the individuals originally assigned and submitted to Tom Reilly no later than February 12, 1982, for inclusion in the plan draft. Decisions on the remaining items, overall flow chart, and responsibilities, are discussed below.

(1) Overall Flow Chart. After critique and review, the group decided that the flow chart presented by Tom Reilly contained many procedural steps and could be streamlined. Agreement was reached that the flow chart should contain only those steps for which standards were written (management direction, development plan, and operating plan), and that these steps should be covered by Forest Policy Statements. A great deal of time was spent discussing how this overall flow chart, particularly management direction, should mesh with the new timber sale gate system. It was determined that many details of the gate system still have to be worked out, and that the area of rock resource management may not fit into this system. This decision will be re-evaluated in one to two years when the gate system has been implemented. This flow chart will be finalized by Tom Reilly and appear in the plan draft.

(2) Responsibilities. The group discussed responsibilities for the overall flow chart and agreed that lead responsibilities should be given to Rangers and Staff, and recommendations should be made for subunit responsibility for accomplishment consistent with Ranger/Staff organizations. Tom Reilly will prepare this portion for the plan draft.

3. Assignment of Writing Tasks. The group agreed that individual members should proceed with finalizing portions of the draft not yet completed and reviewed, and send to Tom Reilly prior to 2/12/82.

4. Policy Statement Review. The group reviewed Forest policy statements and made the following revisions (refer to second meeting minutes, 12/31/81):

a. The decision to use any location for a common mineral materials source will be documented by an approved environmental assessment.

b. Rock materials used will not exceed minimum project quality requirements unless no other feasible alternative is available.

c. Policy C, written and appearing in second meeting minutes (12/31/81), was not changed.

d. All materials sources will be developed consistent with management direction and follow an approved development plan. All users will follow an operating plan in source development.

e. Any use of a material source for timber sales other than for that specified in project plans (i.e., spur roads and landings) will be documented by issuance of a mineral materials permit. This use will be consistent with Forest policy statements.

5. Analysis of the Problem Area/Barrier List. The group did not have sufficient time available at this meeting to accomplish this agenda item. It will be considered at the next meeting.

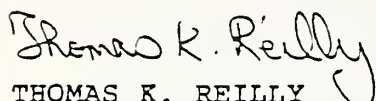
The next Forest Rock Resource Task Force meeting will be on February 26, 1982, in the Supervisor's Office, east half first floor conference room. The meeting will start at 8:00 a.m. and members should be prepared to meet until 4:30 p.m. if necessary. The agenda will be as follows:

1. Review, critique, and editing Plan Draft to be received by group members prior to February 19, 1982.

2. Review and analysis of plan rough draft in light of plan objectives and the list of problem areas/barriers to efficient rock resource management developed at the first meeting. Any areas unresolved will require formulation of a recommendation to the Forest Management Team for the March 16-18 presentation.

3. Assembly of an implementation alternatives package.

4. Review of cover letter, cover page, table of contents, and introduction to be written by Tom Reilly and included with plan rough draft.


THOMAS K. REILLY
Forest Geologist

cc: Jim Bull, Mt. Adams RD
Bob Yoder, Zone I
Allen Morrisette, Zone II
Dave Porter, SO
Roger Williams, SO
Brent Holman, Zone II

Enclosure



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Forest
Service

RO

GPNF ☒=Info ☒=Action/Priority
FS _____ DFS _____ AO _____
DID _____ L/P _____ T/V _____
F/ECC _____ ENG MMTR _____

Reply to:

1530 Interdepartmental
(E)

Date January 8, 1981
JAN 11 1982

Subject:

Mine Safety and Health Administration (MSHA)

ADP _____ B & F _____ Contr _____
LE _____ PM _____ RES _____ O/S _____
Received: _____ Distrib: _____

To:

Forest Supervisors

The continuing resolution for funding of Federal agencies terminated all MSHA enforcement funding for sand, gravel, and crushed stone operations until at least March 31, 1982.

Inspection of these operations will be conducted by the states of Oregon and Washington under OSHA state plans General Duty Clauses (similar to OSHA Part 1910) until legislative changes in the law are concluded.

State inspections will be incidental to inspection of other operations (logging or construction), unless a worker registers a complaint or a critical injury or fatal accident occurs.

Until further notice we recommend the following actions:

1. All design of pits and quarries shall conform to existing MSHA standards.

2. All situations of imminent danger to workmen shall be referred to state safety agencies (Oregon-Accident Prevention Division or Washington-Department of Labor and Industries).

3. Questions on design and operation of pits or quarries are to be referred to this office.

JOHN R. PRUITT
Acting Director of Engineering

cc: E - Hally
Thompson
Keeney
Steward

WS
L&M





United States
Department of
Agriculture

Forest
Service

Gifford Pinchot NF

500 West 12th Street
Vancouver, WA 98660

Reply to: 2800 Minerals and Geology

Date: March 5, 1982

Subject: Summary of Rock Resource Task Force, Meeting #4

To: All Members

The fourth meeting of the Forest Rock Resource Management Task Force was held in the Supervisor's Office on February 26, 1982. All members were in attendance. The agenda for the fourth meeting was defined by the group as follows:

1. Review, critique, and edit Plan Draft including the cover letter for the Management Team prework package.
2. Formulation of an array of implementation alternatives.
3. Review and analysis of draft in light of plan objectives and the list of problem areas/barriers to efficient rock resource management developed at the first meeting.
4. Formulation of a recommendations section for the Plan.

The accomplishment of this fourth meeting will be summarized in this memo in order of the agenda items considered as listed above.

1. The Plan draft was critiqued by the group after independent review the previous week. On the whole, the group was satisfied with the draft, and all group members submitted their copies with minor grammatical corrections and typographical errors to Tom Reilly for final revision.
2. An array of implementation alternatives was formulated as follows:



It is assumed that the Procedures portion of this Plan will be implemented immediately upon the approval of the Forest Management Team. The Standards identified in the Plan will be something that Forest personnel can work to attain, but the full implementation of the Standards will vary by the alternatives as described below.

a) High Emphasis Alternative

All presently inventoried materials sources will fully meet Forest Standards by the end of FY 1985. This anticipates completion of 54 sources in FY 1982 and 125 per fiscal year thereafter, utilizing a method of prioritization of sites. The following are criteria for prioritization:

- a. Currently obligated sources
- b. Those sources which could become obligated by FY 1985
- c. Sources with resource conflicts (e.g., visuals, wildlife, recreation)
- d. Sources which show a high potential for favorable cost/benefit ratio
- e. All remaining sources

b) Low Emphasis Alternative

Those materials sources which will become obligated for FY 1986 projects and beyond will fully meet Forest Standards prior to obligation. At best, presently inventoried sources would meet Standards by the end of 1993. However, it is likely that 50% of the 121 closed, depleted, and terminated sites will not meet Forest Standards in this time frame.

c) Status Quo Alternative

Materials sources may or may not meet Standards depending on individuals and resource values involved. Specific accomplishment in terms of presently inventoried sources will be random.

- d) All presently inventoried materials sources will fully meet Forest Standards by the end of FY 1993. Those sources which will become obligated for FY 1986 projects and beyond will fully meet Forest Standards prior to obligation.
- e) All presently inventories materials sources (including those previously terminated) will fully meet Forest Standards by the end of FY 1989. Those sources which will become obligated for FY 1984 and beyond will fully meet Forest Standards.

3. The draft was revised in light of overall plan objectives and the list of problem areas/barriers to efficient rock resource management developed at the first meeting.

The group was satisfied that nearly all of these items were resolved in the Plan draft; however, some of the items not resolved were used to formulate recommendations for the draft.

4. The last agenda item consisted of formulation of a recommendation section for the Plan as follows:
 - a) It is recommended that Sections IV, V, and the Preferred Implementation Alternative be published as Manual Supplements to FSM 2850 with appropriate reference supplements in FSM 7170 and 7700.
 - b) It is recommended that Sections VI and VII be published as Handbook Supplements to FSH 2809.
 - c) Recommend that the Timber Staff Officer pursue development of a "c" clause that would allow the Forest to authorize the use of mineral materials for spur road and landing rock from a designated source.
 - d) Recommend that the Forest place increased emphasis on monitoring the unauthorized removal of mineral materials and pursue appropriate law enforcement action.
 - e) It is recommended that the Forest Engineer:
 - 1) Pursue developing an automated data storage and retrieval system for mineral materials source data
 - 2) Further define the problem of current contract provisions preventing stacking of operators in sources for formal contract entries
 - 3) Continue to place emphasis in the budgeting process to identify funding needs in the Minerals and Geology function.
 - 4) Establish and update on an annual basis a Forest minimum fair market value for common mineral materials to be sold by permit
 - 5) Annually update the current situation relating to the implementation alternative selected and recommend adjustments in Plan implementation when appropriate
 - f) It is recommended that the Task Force conduct a workshop at one or several locations for Forest personnel involved in rock resource management to insure understanding and commitment to the Plan.

Tom Reilly will finalize the draft Plan and have the prework package for Forest Management Team #24 in the mail by march 5, 1982. Jim Bull will introduce the topic to the Management Team on March 16 and Tom Reilly will summarize the implementation alternatives for the Team's decision. Attendance at the meeting by other Task Force members is optional.

Thomas K. Reilly
THOMAS K. REILLY
Forest Geologist



United States
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Forest
Service

Gifford Pinchot NF

500 West 12th Street
Vancouver, WA 98660

Reply to: 2800 Minerals and Geology

Date: March 5, 1982

Subject: Forest Rock Resource Management Plan Draft

To: Forest Supervisor, District Rangers,
Nursery Superintendent and SO Staff

A draft Forest Rock Resource Management Plan has been completed by the Task Force formed in September of 1981. The draft is enclosed for your review and approval. This will be a topic at Forest Management Team meeting #24 with the objective being a decision on acceptance. Minutes from the four task force meetings are also enclosed to provide background on the process followed to formulate the draft.

The presentation on March 16 will focus on the Implementation Alternatives portion of the Plan (section VIII). I would ask that you pay particular attention to this section, and evaluate the effects of implementing each alternative on your organization as well as the Forest as a whole and be prepared to choose the preferred implementation plan.

Also, the Plan contains a Recommendations section which is an attempt to resolve barriers to efficient rock resource management not covered in the Plan.

Thomas K. Reilly

THOMAS K. REILLY
Forest Geologist, Task Force Chairperson



ca



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